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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,871	10/06/2003	Barbara Chabut	P26,257-B USA	3835

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EXAMINER
SELLERS, ROBERT E

ART UNIT	PAPER NUMBER
1796	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	**Application No.** 10/679,871	**Applicant(s)** CHABUT ET AL.
	Examiner ROBERT SELLERS	**Art Unit** 1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 March 2010*.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 6-15* is/are pending in the application.
  4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1 and 6-15* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  a)☐ All b)☐ Some * c)☐ None of:
    1.☐ Certified copies of the priority documents have been received.
    2.☐ Certified copies of the priority documents have been received in Application No. _____.
    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
  Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
  Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

This is responsive to the Request for Continued Examination filed March 1, 2010 after the affirmance by the Board of Patent Appeals and Interferences (BPAI) mailed December 28, 2009 of the Examiner's answer mailed July 11, 2008.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 and 6-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Australian Patent No. 56401-86 and Japanese Patent No. 89716 in view of Goto et al. Patent No. 4,729,696 and Parish et al. Patent No. 5891,942.

The following is a reiteration of the ground of rejection set forth in the Examiner's answer except for the addressing of the newly claimed amount of from about 70 pbwa to about 95 pbwa (wherein "pbwa" denotes the parts by weight based on the active components)of polymerizable vinyl ester as described on page 2, lines 38-41 of the specification filed October 6, 2003 with respect to the Australian patent.

1. The Austalian patent discloses a composition "for fastening dowels and and anchor rods in drill holes (page 9, lines 16-18)" comprising a calculated proportion relative to the active components of from 36 to 87.5 weight percent (page 9, lines 1-2, 9 weight percent per 25 weight percent of combined active components of reactive resin and thinner to 28 weight percent per 32 weight percent of combined active components) of especially a reaction product of acrylic acid and a bisphenol containing two epoxy groups (page 4, lines 23-25), the bisphenol diepoxide within claimed formula (I) according to page 10, lines 20-22 of the instant specification. A reactive thinner such as divinylbenzene (page 7, line 4) is included in an amount of from 4 to 16 weight percent (page 9, line 2) converted to a calculated weight ratio of vinyl ester to reactive thinner of from 0.56:1 to 7:1. The formulation further contains an initiator such as dibenzoyl peroxide, methyl ethyl ketone peroxide or t-butyl perbenzoate (page 6, lines 4-9, species within the claimed curing catalyst according to page 6, lines 4-5 of the instant specification) and an activator (page 7, lines 8-13).

2. The Japanese patent sets forth a binder for anchoring bolts in concrete or base rock (abstracts and translation, pages 6-7, paragraphs 45 and 46) prepared from a calculated level of 87.1% by weight of active components (CAPLUS abstract, 67.5 parts by weight of epoxy acrylate per 77.5 parts by weight of combined active components of styrene and epoxy acrylate) of a polyfunctional monomer (b) such as an epoxy diacrylate of Formula 1 (page 4, paragraph 22) obtained by reacting methacrylic acid with a diglycidyl ether of bisphenol A equivalent to that depicted in the instant specification on page 14, lines 1-7, and more than 10 weight percent of (page 3, paragraph 18) of a monofunctional monomer (a) (page 3, paragraph 18) of a monofunctional monomer (a). Table 2 on page 9, Example 2-4 shows weight ratios of vinyl ester to monofunctional monomer of 1.2:1. The binder further contains a polymerization initiator such as an organic peroxide (pages 4-5, paragraphs 27-28) and a decomposition accelerator such as N,N-dihydroxyethyl-p-toluidine (CAPLUS abstract, a preferred activator according to page 16, line 3 of the instant specification).

3. The exemplified reactive thinner of the Australian patent and monofunctional monomer of the Japanese patent is styrene which contradicts the claimed reactive diluent being substantially styrene-free. However, the teachings of a reference are not confined merely to the examples. Both the Australian patent (page 7, lines 1-7) and the Japanese patent (page 2, paragraph 15) are open to any reactive thinner or monofunctional monomer which achieves the desired viscosity, facilitates handling and adjusts the hardening property while being reactive with the (meth)acrylate groups of the epoxy diacrylate.

4. Goto et al. reports an adhesive for fixing an anchor bolt in concrete, masonry and rock (col. 1, lines 3131-33 and col. 3, lines 1-13) obtained from 40 to 70 weight percent (col. 5, line 67 to col. 6, line 2) of an epoxy acrylate derived from (meth)acrylic acid (col. 8, lines 63-66) and from 30 to 60 weight percent of a reactive monomer such as vinyltoluene (col. 5, lines 63-65) converted to a calculated weight ratio of epoxy acrylate to vinyltoluene of from 0.67:1 to 2.3:1. An organic peroxide curing agent (col. 6, lines 27-37) and a dimethyl-p-toluidine cure accelerator (col. 6, lines 14-16) are employed.

5. Parish et al. teaches the benefits of using vinyl toluene over styrene as a reactive diluent for a styrene-free vinyl ester resin composition (col. 2, lines 25-35 and col. 3, lines 16-23) cured in the presence of an organic peroxide catalyst (col. 5, lines 2-7) and a N,N'dimethyl-p-toluidine accelerating agent (col. 5, lines 51-52, a suitable species of activator described on page 16, line 1 of the instant specification). According to column 3, lines 38-43:

> "Vinyltoleune is safer to use than vinylbenzene [i.e. styrene] Because vinyltoluene has a lower vapor pressure, a higher boiling point and a higher flash point than styrene. Additionally, when vinyltoluene is used, fume hoods or special application equipment are unnecessary."

6. Goto et al. establishes the use of vinyltoluene as a reactive monomer in an epoxydiacrylate adhesive for anchoring bolts in concrete, masonry and rock. Parish et al. provides the rationale for selecting vinyltoluene over styrene in equivalent vinyl ester formulations cured by the same catalyst and activator.

7. It would have been obvious to employ the vinyltoluene of Goto et al. and Parish et al. as the reactive thinner of the Australian patent and the monofunctional monomer of the Japanese patent in order to take advantage of the lower vapor pressure and higher boiling and flash points of vinyltoluene which decreases volatility and prevents the emission of environmentally hazardous styrene vapor.

The pull out performance values of claims 13-15 are not recited.

8. The utilities of the compositions of the Australian and Japanese patents are identical to that claimed as adhesives for anchoring bolts in concrete or rock. The compositions contain the same epoxy diacrylate, organic peroxide catalyst and activator. The Japanese patent measures the adhesive strength of the formulation applied into the hole of concrete with a steel bar (page 7, paragraph 51). Goto et al. recognizes the importance of maintaining the adhesive strength between the anchor bolt and concrete (col. 9, lines 45-58).

9. Although the claimed specific test described on page 20 of the instant specification yielding the claimed pull out performance ranges was not conducted, based on the equivalent utilities and components within the adhesive formulations of the Australian and Japanese patents, as well as the acknowledgement in the Japanese patent and Goto et al. that epoxydiacrylate adhesive compositions must exhibit adhesive strength between the anchor bolt and concrete, the compositions of the Australian and Japanese patents inherently possess pull out performance values within the claimed parameters.

There is no evidence of record distinguishing the claimed composition over the closest prior art exemplified formulations of the Australian and Japanese patents with respect to the claimed pull out performance.

The arguments filed March 1, 2010 have been considered but are unpersuasive.

10. The evidence presented on pages 20-22 of the specification filed March 4, 2004 is inconclusive since the closest prior art calculated quantity of 50.1% of bisphenol A methacrylate in Example 1 on page 12 has not been compared to the claimed range of from about 70 to about 95 pbwa wherein the types and amounts of reactive diluent, curing catalyst and activator are held constant. The Comparative Examples is not representative of the closest prior art Example 1 of the Australian patent.

11. Furthermore, the evidence is not commensurate in scope with the claimed proportion range, especially considering the testing of a Part A in Example 1 of 35 wt% of vinyl ester and 65 wt% of vinyl toluene outside of the claimed parameters.
The testing of a single species of vinyl toluene does not establish the criticality of the claimed species of aliphatic vinyl and diene reactive diluents.

12. According to the BPAI affirmance on page 9:

> “Goto makes it abundantly clear that vinyl toluene is a known reactive diluent available for use in an epoxy acrylate adhesive composition that is useful for anchoring bolts to concrete as one of ordinary skill in the art would readily recognize. Moreover, EP ‘671 [i.e. the Australian patent] or JP ‘716 each does not teach or suggest that other known reactive diluents, such as vinyl toluene are precluded in their compositions as an alternative diluent. For example, and as noted above, EP 671 discloses that other reactive thinners may be employed (p. 7, ll. 1-7).

> Moreover, and while unnecessary to the Examiner's obvious position, Parish further teaches that vinyl toluene has safety advantages over styrene (vinyl benzene) when used as a reactive diluent component of a resin. In this regard, all disclosures of the prior art must be considered, not just preferred embodiments. *See In re Lamberti*, 545 F.2d 747, 750 (CCPA 1976)."

13. Goto et al. and Parish et al. are not relied upon the teach the claimed proportion of vinyl ester. The primary references of the Australian and Japanese patents both disclose concentrations of vinyl ester within the newly claimed limits.

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/Robert Sellers/
Primary Examiner
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rs
4/23/2010